Mark J Pearcy

List of Publications by Year
in descending order

142 papers	7,261 citations	76326 40 h-index	58581 82 g-index
143 all docs	143 docs citations	143 times ranked	6587 citing authors

#	Article	IF	Citations
1	Characterization of progressive changes in pedicle morphometry and neurovascular anatomy during growth in adolescent idiopathic scoliosis versus adolescents without scoliosis. Spine Deformity, 2020, 8, 1193-1204.	1.5	8
2	The effect of vertebral body stapling on spine biomechanics and structure using a bovine model. Clinical Biomechanics, 2020, 74, 73-78.	1.2	1
3	Predicting spinal profile using 3D non-contact surface scanning: Changes in surface topography as a predictor of internal spinal alignment. PLoS ONE, 2019, 14, e0222453.	2.5	8
4	Mechanical Function of the Nucleus Pulposus of the Intervertebral Disc Under High Rates of Loading. Spine, 2019, 44, 1035-1041.	2.0	23
5	Minimizing Spine Autofusion With the Use of Semiconstrained Growing Rods for Early Onset Scoliosis in Children. Journal of Pediatric Orthopaedics, 2018, 38, e562-e571.	1.2	3
6	Role of the Middle Lumbar Fascia on Spinal Mechanics. Spine, 2017, 42, E459-E465.	2.0	4
7	Load-induced changes in the diffusion tensor of ovine anulus fibrosus: A pilot MRI study. Journal of Magnetic Resonance Imaging, 2017, 45, spcone-spcone.	3.4	0
8	Loadâ€induced changes in the diffusion tensor of ovine anulus fibrosus: A pilot MRI study. Journal of Magnetic Resonance Imaging, 2017, 45, 1723-1735.	3.4	10
9	Sequential Magnetic Resonance Imaging Reveals Individual Level Deformities of Vertebrae and Discs in the Growing Scoliotic Spine. Spine Deformity, 2017, 5, 197-207.	1.5	10
10	A comparison of vertebral venous networks in adolescent idiopathic scoliosis patients and healthy controls. Surgical and Radiologic Anatomy, 2017, 39, 281-291.	1.2	4
11	Is There Asymmetry Between the Concave and Convex Pedicles in Adolescent Idiopathic Scoliosis? A CT Investigation. Clinical Orthopaedics and Related Research, 2017, 475, 884-893.	1.5	41
12	A comparison of four techniques to measure anterior and posterior vertebral body heights and sagittal plane wedge angles in adolescent idiopathic scoliosis. Medical and Biological Engineering and Computing, 2017, 55, 561-572.	2.8	2
13	Is vertebral rotation correction maintained after thoracoscopic anterior scoliosis surgery? A low-dose computed tomography study. Scoliosis and Spinal Disorders, 2017, 12, 22.	2.3	2
14	Quantifying Progressive Anterior Overgrowth in the Thoracic Vertebrae of Adolescent Idiopathic Scoliosis Patients. Spine, 2016, 41, E382-E387.	2.0	18
15	Morphometric Analysis of the Thoracic Intervertebral Foramen Osseous Anatomy in Adolescent Idiopathic Scoliosis Using Low-Dose Computed Tomography. Spine Deformity, 2016, 4, 182-192.	1.5	7
16	Understanding how axial loads on the spine influence segmental biomechanics for idiopathic scoliosis patients: A magnetic resonance imaging study. Clinical Biomechanics, 2016, 32, 220-228.	1.2	13
17	Comparison of Silicate-Substituted Calcium Phosphate (Actifuse) with Recombinant Human Bone Morphogenetic Protein-2 (Infuse) in Posterolateral Instrumented Lumbar Fusion. Global Spine Journal, 2015, 5, 471-478.	2.3	15
18	Growing rod analysis for the fusionless correction of Early Onset Scoliosis (EOS). Scoliosis, 2015, 10, .	0.4	1

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19	Gravity-induced coronal plane joint moments in adolescent idiopathic scoliosis. Scoliosis, 2015, 10, 35.	0.4	1
20	A Compliant, Banded Outflow Cannula for Decreased Afterload Sensitivity of Rotary Right Ventricular Assist Devices. Artificial Organs, 2015, 39, 102-109.	1.9	11
21	The effect of endplate preselection when measuring supine versus standing cobb angle change in idiopathic scoliosis. Scoliosis, 2015, 10, .	0.4	0
22	A biomechanical investigation of dual growing rods used for fusionless scoliosis correction. Clinical Biomechanics, 2015, 30, 33-39.	1.2	8
23	A semiautomatic method to identify vertebral end plate lesions (Schmorl's nodes). Spine Journal, 2015, 15, 1665-1673.	1.3	2
24	Supine to standing Cobb angle change in idiopathic scoliosis: the effect of endplate pre-selection. Scoliosis, 2014, 9, 16.	0.4	18
25	The effect of repeated loading and freezeâ€“thaw cycling on immature bovine thoracic motion segment stiffness. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2014, 228, 1100-1107.	1.8	8
26	Mechanical tension as a driver of connective tissue growth in vitro. Medical Hypotheses, 2014, 83, 111-115.	1.5	5
27	Segmental torso masses in adolescent idiopathic scoliosis. Clinical Biomechanics, 2014, 29, 773-779.	1.2	9
28	Ability of modal analysis to detect osseointegration of implants in transfemoral amputees: a physical model study. Medical and Biological Engineering and Computing, 2013, 51, 39-47.	2.8	12
29	Anatomic Fitting of Total Artificial Hearts for In Vivo Evaluation. Artificial Organs, 2013, 37, 735-741.	1.9	3
30	Evaluation of Inflow Cannulation Site for Implantation of Rightâ€Sided Rotary Ventricular Assist Device. Artificial Organs, 2013, 37, 704-711.	1.9	12
31	Computational Fluid Dynamic Analysis of Intracranial Aneurysmal Bleb Formation. Neurosurgery, 2013, 73, 1061-1069.	1.1	38
32	Passive Control of a Biventricular Assist Device With Compliant Inflow Cannulae. Artificial Organs, 2012, 36, 683-690.	1.9	14
33	Shortening Cemented Femoral Implants. Journal of Arthroplasty, 2012, 27, 934-939.	3.1	9
34	Frank-starling control of a left ventricular assist device. , 2011, 2011, 1335-8.		21
35	Computational model of the lumbar spine musculature: Implications of spinal surgery. Clinical Biomechanics, 2011, 26, 116-122.	1.2	9
36	A Compact Mock Circulation Loop for the In Vitro Testing of Cardiovascular Devices. Artificial Organs, 2011, 35, 384-391.	1.9	90

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37	In Vitro Evaluation of a Compliant Inflow Cannula Reservoir to Reduce Suction Events With Extracorporeal Rotary Ventricular Assist Device Support. Artificial Organs, 2011, 35, 765-772.	1.9	11
38	Replication of the Frank-Starling response in a mock circulation loop. , 2011, 2011, 6825-8.		37
39	Evaluation of modal analysis techniques using physical models to detect osseointegration of implants in transfemoral amputees. , 2011, 2011, 1600-3.		8
40	A new approach for assigning bone material properties from CT images into finite element models. Journal of Biomechanics, 2010, 43, 1011-1015.	2.1	75
41	A three-dimensional mathematical model of the thoracolumbar fascia and an estimate of its biomechanical effect. Journal of Biomechanics, 2010, 43, 2792-2797.	2.1	38
42	Development of a multi-scale finite element model of the osteoporotic lumbar vertebral body for the investigation of apparent level vertebra mechanics and micro-level trabecular mechanics. Medical Engineering and Physics, 2010, 32, 653-661.	1.7	33
43	The mechanical response of the ovine lumbar anulus fibrosus to uniaxial, biaxial and shear loads. Journal of the Mechanical Behavior of Biomedical Materials, 2010, 3, 146-157.	3.1	31
44	Optimizing the Response From a Passively Controlled Biventricular Assist Device. Artificial Organs, 2010, 34, 393-401.	1.9	8
45	A Passively Controlled Biventricular Support Device. Artificial Organs, 2010, 34, 473-480.	1.9	9
46	Atrial Versus Ventricular Cannulation for a Rotary Ventricular Assist Device. Artificial Organs, 2010, 34, 714-720.	1.9	22
47	Load on Osseointegrated Fixation of a Transfemoral Amputee During a Fall. Prosthetics and Orthotics International, 2010, 34, 85-97.	1.0	55
48	Computational investigations of mechanical failures of internal plate fixation. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2010, 224, 119-126.	1.8	41
49	Artificial lumbar intervertebral disc replacement: accepted practice or experimental surgery?. Expert Review of Medical Devices, 2010, 7, 855-860.	2.8	6
50	Simulation and enhancement of a cardiovascular device test rig. Journal of Simulation, 2010, 4, 34-41.	1.5	26
51	Apparatus for monitoring load bearing rehabilitation exercises of a transfemoral amputee fitted with an osseointegrated fixation: A proof-of-concept study. Gait and Posture, 2010, 31, 223-228.	1.4	36
52	A naturally shaped silicone ventricle evaluated in a mock circulation loop: A preliminary study. Journal of Medical Engineering and Technology, 2009, 33, 185-191.	1.4	14
53	Simulation of the nutrient supply in fracture healing. Journal of Biomechanics, 2009, 42, 2575-2583.	2.1	47
54	Development of a biaxial compression device for biological samples: Preliminary experimental results for a closed cell foam. Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 305-309.	3.1	5

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55	The BiVACOR Rotary Biventricular Assist Device: Concept and In Vitro Investigation. Artificial Organs, 2008, 32, 816-819.	1.9	62
56	FE stress analysis of the interface between the bone and an osseointegrated implant for amputees â€“ Implications to refine the rehabilitation program. Clinical Biomechanics, 2008, 23, 1243-1250.	1.2	45
57	Are coupled rotations in the lumbar spine largely due to the osseo-ligamentous anatomy?â€”A modeling study. Computer Methods in Biomechanics and Biomedical Engineering, 2008, 11, 95-103.	1.6	43
58	Are coupled rotations in the lumbar spine largely due to the osseo-ligamentous anatomy? â€“ A modelling study. Computer Methods in Biomechanics and Biomedical Engineering, 2008, 11, 214-214.	1.6	1
59	Gravity-Induced Torque and Intravertebral Rotation in Idiopathic Scoliosis. Spine, 2008, 33, E30-E37.	2.0	24
60	A robotic testing facility for the measurement of the mechanics of spinal joints. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2007, 221, 221-227.	1.8	15
61	Re-design of the Exeter V40 long-stem femoral component for ease of removal. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2007, 221, 195-201.	1.8	3
62	Three-Dimensional Lumbar Spine Postures Measured by Magnetic Resonance Imaging Reconstruction. Spine, 2007, 32, 1242-1248.	2.0	13
63	In Vitro Analysis of Exeter Stem Torsional Stability. Journal of Arthroplasty, 2007, 22, 1024-1030.	3.1	7
64	Kinetics of transfemoral amputees with osseointegrated fixation performing common activities of daily living. Clinical Biomechanics, 2007, 22, 665-673.	1.2	96
65	Thermomechanical investigation of the cortical bone analogue in third-generation Sawbones femurs. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2007, 221, 213-217.	1.8	6
66	Nonlinear finite element analysis of anular lesions in the L4/5 intervertebral disc. Journal of Biomechanics, 2007, 40, 2744-2751.	2.1	64
67	Modelling external bone adaptation using evolutionary structural optimisation. Biomechanics and Modeling in Mechanobiology, 2007, 6, 275-285.	2.8	21
68	Parametric equations to represent the profile of the human intervertebral disc in the transverse plane. Medical and Biological Engineering and Computing, 2007, 45, 939-945.	2.8	16
69	Comparison of two numerical approaches for bone remodelling. Medical Engineering and Physics, 2007, 29, 134-139.	1.7	30
70	The role of quadratus lumborum asymmetry in the occurrence of lesions in the lumbar vertebrae of cricket fast bowlers. Medical Engineering and Physics, 2007, 29, 877-885.	1.7	25
71	The effect of soft tissue properties on overall biomechanical response of a human lumbar motion segment: a preliminary finite element study. WIT Transactions on Biomedicine and Health, 2007, , .	0.0	2
72	Coupled rotations in the lumbar spineâ€”are these a consequence of passive spinal anatomy?. WIT Transactions on Biomedicine and Health, 2007, , .	0.0	3

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73	The effect of trabecular micro-architecture on vertebra biomechanics: a finite element investigation. WIT Transactions on Biomedicine and Health, 2007, , .	0.0	0
74	Aging Performance of a Compliant Layer Bearing Acetabular Prosthesis in an Ovine Hip Arthroplasty Model. Journal of Arthroplasty, 2006, 21, 899-906.	3.1	32
75	Abnormal Motion in Spondylolytic Spondylolisthesis. Spine, 2005, 30, 1159-1164.	2.0	42
76	Evaluation of Left Ventricular Assist Device Performance and Hydraulic Force in a Complete Mock Circulation Loop. Artificial Organs, 2005, 29, 573-580.	1.9	23
77	Timing of pulsed electromagnetic field stimulation does not affect the promotion of bone cell development. Bioelectromagnetics, 2005, 26, 670-676.	1.6	28
78	An experimental and finite element poroelastic creep response analysis of an intervertebral hydrogel disc model in axial compression. Journal of Materials Science: Materials in Medicine, 2005, 16, 663-669.	3.6	28
79	Mediation of Biomaterialâ€“Cell Interactions by Adsorbed Proteins: A Review. Tissue Engineering, 2005, 11, 1-18.	4.6	1,464
80	Metal debris from bony resection in knee arthroplastyâ€”is it an issue?. Monthly Notices of the Royal Astronomical Society: Letters, 2005, 76, 475-480.	3.3	17
81	The Long-Term Wear of Retrieved McKee-Farrar Metal-on-Metal Total Hip Prostheses. Journal of Arthroplasty, 2005, 20, 350-357.	3.1	62
82	A diffusion andT2relaxation MRI study of the ovine lumbar intervertebral disc under compressionin vitro. Physics in Medicine and Biology, 2004, 49, 3585-3592.	3.0	24
83	The mechanical effects of intervertebral disc lesions. Clinical Biomechanics, 2004, 19, 448-455.	1.2	52
84	Finite Element Simulation of an L4/5 Lumbar Intervertebral Disc(Soft Tissue Mechanics). The Proceedings of the Asian Pacific Conference on Biomechanics Emerging Science and Technology in Biomechanics, 2004, 2004.1, 181-182.	0.0	0
85	The Relevance of Biomechanics to Orthopaedic Practice(Plenary Lectures). The Proceedings of the Asian Pacific Conference on Biomechanics Emerging Science and Technology in Biomechanics, 2004, 2004.1, 3-4.	0.0	0
86	Initiation of Mechanical Derangement in the Anulus Fibrosus Ground Matrix(Soft Tissue Mechanics). The Proceedings of the Asian Pacific Conference on Biomechanics Emerging Science and Technology in Biomechanics, 2004, 2004.1, 183-184.	0.0	0
87	Defining the Neutral Zone of sheep intervertebral joints during dynamic motions: an in vitro study. Clinical Biomechanics, 2003, 18, 89-98.	1.2	97
88	Stress analysis of interbody fusionâ€“â€“finite element modelling of intervertebral implant and vertebral body. Clinical Biomechanics, 2003, 18, 265-272.	1.2	48
89	Graphical presentation of the range of hip and knee rotations for clinical evaluation of gait. Clinical Biomechanics, 2001, 16, 84-86.	1.2	6
90	Modelling the line of action for the oblique abdominal muscles using an elliptical torso model. Journal of Biomechanics, 2001, 34, 1203-1207.	2.1	22

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91	Disc Lesions and the Mechanics of the Intervertebral Joint Complex. Spine, 2000, 25, 3026-3035.	2.0	60
92	Implant retrieval studies of the wear and loosening of prosthetic joints: a review. Wear, 2000, 241, 158-165.	3.1	99
93	The skeletal response to matt and polished cemented femoral stems. Journal of Bone and Joint Surgery: British Volume, 2000, 82, 1182-1188.	3.4	6
94	A three-dimensional definition for the flexion/extension and abduction/adduction angles. Medical and Biological Engineering and Computing, 1999, 37, 440-444.	2.8	25
95	Kinematics and movement sequencing during flexion of the lumbar spine. Clinical Biomechanics, 1999, 14, 376-383.	1.2	42
96	Difficulties in Estimating Muscle Forces From Muscle Cross-Sectional Area. Spine, 1999, 24, 1487.	2.0	16
97	Power spectrum analysis of human femoral rotations during gait. Medical and Biological Engineering and Computing, 1997, 35, 553-555.	2.8	1
98	Clinical Implications Of Stiffness And Strength Changes In Fracture Healing. Journal of Bone and Joint Surgery: British Volume, 1997, 79, 9-12.	3.4	36
99	In Vitro Human Monocyte Response To Wear Particles Of Titanium Alloy Containing Vanadium Or Niobium. Journal of Bone and Joint Surgery: British Volume, 1997, 79, 311-315.	3.4	104
100	Three-dimensional analysis of active cervical motion: the effect of age and gender. Clinical Biomechanics, 1996, 11, 201-206.	1.2	118
101	Bilateral femoral rotations measured during walking: a new parameter to summarize and describe individual gait. Clinical Biomechanics, 1996, 11, 354-357.	1.2	2
102	Direct measurement of hoop strains in the intact and torn human medial meniscus. Clinical Biomechanics, 1996, 11, 295-300.	1.2	176
103	The reliability of postural sway measures using the 3space Tracker. Clinical Biomechanics, 1996, 11, 361-363.	1.2	5
104	Drug Inhibition of the Macrophage Response to Metal Wear Particles In Vitro. Clinical Orthopaedics and Related Research, 1996, 323, 316-326.	1.5	42
105	A Biological Basis for Instantaneous Centres of Rotation of the Vertebral Column. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 1995, 209, 177-183.	1.8	58
106	Mechanical properties of the human anterior cruciate ligament. Clinical Biomechanics, 1995, 10, 339-344.	1.2	53
107	Failure strengths of different meniscal suturing techniques. Arthroscopy - Journal of Arthroscopic and Related Surgery, 1995, 11, 146-150.	2.7	162
108	Mechanical consequences of annular tears and subsequent intervertebral disc degeneration. Clinical Biomechanics, 1994, 9, 211-219.	1.2	37

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109	A method for production and characterization of metal prosthesis wear particles. Journal of Orthopaedic Research, 1993, 11, 856-864.	2.3	30
110	THE AXIAL TORQUE OF THE LUMBAR BACK MUSCLES: TORSION STRENGTH OF THE BACK MUSCLES. ANZ Journal of Surgery, 1993, 63, 205-212.	0.7	28
111	Twisting Mobility of the Human Back in Flexed Postures. Spine, 1993, 18, 114-119.	2.0	61
112	The Effects of Flexion on the Geometry and Actions of the Lumbar Erector Spinae. Spine, 1993, 18, 884-893.	2.0	74
113	The Response to Particulate Debris. Orthopedic Clinics of North America, 1993, 24, 571-581.	1.2	123
114	A Universal Model of the Lumbar Back Muscles in the Upright Position. Spine, 1992, 17, 897-913.	2.0	296
115	Anatomy and biomechanics of psoas major. Clinical Biomechanics, 1992, 7, 109-119.	1.2	193
116	Correlations between the mechanical properties, radiology and histomorphometry of human femoral bone. Clinical Biomechanics, 1992, 7, 153-160.	1.2	5
117	Bioengineering Activities in the Department of Orthopaedic Surgery and Trauma, Royal Adelaide Hospital, Adelaide, South Australia. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 1991, 205, 257-259.	1.8	0
118	Three-dimensional kinematics of the human back. Clinical Biomechanics, 1990, 5, 218-228.	1.2	49
119	Mechanical function of the human lumbar interspinous and supraspinous ligaments. Journal of Biomedical Engineering, 1990, 12, 340-344.	0.7	67
120	New method for the non-invasive three-dimensional measurement of human back movement. Clinical Biomechanics, 1989, 4, 73-79.	1.2	183
121	Rotational mobility of the human back in forward flexion. Journal of Biomedical Engineering, 1989, 11, 219-223.	0.7	41
122	Soft layer lubrication of artificial hip joints. Journal of Synthetic Lubrication: Research, Development and Application of Synthetic Lubricants and Functional Fluids, 1988, 5, 55-72.	0.7	10
123	Instantaneous Axes of Rotation of the Lumbar Intervertebral Joints. Spine, 1988, 13, 1033-1041.	2.0	247
124	A graphical presentation of three-dimensional joint mobility. Clinical Biomechanics, 1987, 2, 14-21.	1.2	1
125	Measurement of human back movements in three dimensions by opto-electronic devices. Clinical Biomechanics, 1987, 2, 199-204.	1.2	30
126	Dynamic back movement measured using a three-dimensional television system. Journal of Biomechanics, 1987, 20, 943-949.	2.1	66

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127	Measurement of back and spinal mobility. Clinical Biomechanics, 1986, 1, 44-51.	1.2	63
128	Temperature dependence of the tensile properties of interspinous ligaments of sheep. Journal of Biomedical Engineering, 1986, 8, 62-66.	0.7	33
129	Vertebral Motion Measured Using Biplanar Radiography Before and After Harrington Rod Removal for Unstable Thoracolumbar Fractures of the Spine. Spine, 1986, 11, 452-455.	2.0	10
130	The effect of water content on the stiffness of seating foams. Prosthetics and Orthotics International, 1986, 10, 149-152.	1.0	2
131	Is There Instability in Spondylolisthesis?. Spine, 1985, 10, 175-177.	2.0	55
132	Spinal Movements in Ankylosing Spondylitis and the Effect of Treatment. Spine, 1985, 10, 472-474.	2.0	5
133	A Prospective Study of Lumbar Spinal Movements Before and After Discectomy Using Biplanar Radiography. Spine, 1985, 10, 455-460.	2.0	33
134	The Effect of Low-Back Pain on Lumbar Spinal Movements Measured by Three-Dimensional X-Ray Analysis. Spine, 1985, 10, 150-153.	2.0	145
135	Lumbar Intervertebral Disc Heights in Normal Subjects and Patients with Disc Herniation. Spine, 1985, 10, 452-454.	2.0	70
136	Posterior intertransverse fusion assessed clinically and with biplanar radiography. International Orthopaedics, 1985, 9, 11-17.	1.9	7
137	Stereo radiography of lumbar spine motion. Acta Orthopaedica, 1985, 56, 1-45.	1.4	180
138	Three-Dimensional X-ray Analysis of Normal Movement in the Lumbar Spine. Spine, 1984, 9, 294-297.	2.0	326
139	Axial Rotation and Lateral Bending in the Normal Lumbar Spine Measured by Three-Dimensional Radiography. Spine, 1984, 9, 582-587.	2.0	333
140	Movements of the lumbar spine measured by three-dimensional X-ray analysis. Journal of Biomedical Engineering, 1982, 4, 107-112.	0.7	53
141	Material properties of Velcro fastenings. Prosthetics and Orthotics International, 1982, 6, 93-96.	1.0	1
142	Assessment of bony union after interbody fusion of the lumbar spine using a biplanar radiographic technique. Journal of Bone and Joint Surgery: British Volume, 1982, 64-B, 228-232.	3.4	36